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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,731	07/25/2003	Shinpei Okajima	SN-US035079	9684

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EXAMINER

BELLINGER, JASON R

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,731

Applicant(s)

OKAJIMA, SHINPEI

Examiner

Jason R Bellinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-35 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Allowable Subject Matter

1. The indicated allowability of claims 17-18 is withdrawn in view of the newly discovered reference(s) to Nickerson and Owen et al. Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claims 1, 3-4, 6, 8-9, 14, 17, 19, and 23-24 are objected to because of the following informalities: In claim 1, a colon (:) should be inserted after the term "including" in line 12, and the term "that" should be removed after the term "surface" in line 14, and a hyphen (-) should be inserted between the terms "rim" and "facing" in line 16 for grammatical clarity.

It is believed that the term --spoke-- should be inserted between the term "said" and "attachment" in the phrase "said attachment openings" in lines 13 and 18 of claim 1, lines 2-4 of claim 2, lines 4-5 of claim 3, line 3 of claim 6, line 3 of claim 8, line 2 of claim 9, lines 2 and 4 of claim 14, and lines 2-4 of claim 19 to correspond to the amendment made in line 5 of independent claim 1.

A hyphen (-) should be inserted between the terms "rim" and "facing" in line 2 of claim 4 for grammatical clarity.

The term "sand" should be replaced with the term --said-- in line 6 of claim 17 from grammatical clarity.

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In claim 23, a colon (:) should be inserted after the term "including" in line 12, and the term "that" should be removed after the term "surface" in line 14 for grammatical clarity.

The term --of-- should be inserted after the term "forming" and the term "the" prior to the term "fixedly" should be removed from line 2 for grammatical clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9, 11, 13-23, 25, 28-31, and 34-35 are rejected under 35

U.S.C. 102(b) as being anticipated by Nickerson. Nickerson shows a bicycle rim 3 having an annular tire attachment portion **D** for mounting a tire 8 thereon, and an annular spoke attachment portion 4 fixedly coupled with the tire attachment portion **D**. The spoke attachment portion 4 includes a pair of annular side sections **a**, and an inner annular section to form a substantially U-shaped cross-sectional shape with an annular hollow area.

The spoke attachment portion 4 includes a plurality of circumferential spaced spoke attachment openings, each having a central axis. A plurality of separate reinforcement members (6-7) is fixedly coupled to the spoke attachment portion 4 at the

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spoke attachment openings to effectively increase the thickness of the spoke attachment portion 4; and is located exteriorly of the hollow area. The reinforcement members (6-7) include a through opening that is aligned with one of the spoke attachment openings.

Each reinforcement member (6-7) includes a projecting portion 7 extending inwardly from one of the spoke attachment openings in a radial direction to an end surface spaced radially inwardly of the exterior surface of the spoke attachment portion 4. A rim-facing surface of the reinforcement member (6-7) overlies an attachment area of the exterior surface of the spoke attachment portion 4 that surrounds a corresponding one of the spoke attachment openings. The attachment areas of the exterior surface of the spoke attachment portion 4 are free of any through openings except for the spoke attachment openings.

Each of the through openings is substantially coincident with a respective spoke attachment opening when viewed from the central axis of the spoke attachment opening. Each reinforcement member 6 has a maximum overlapping dimension that overlaps the annular spoke attachment portion 4 as measured from an outer peripheral edge to a respective spoke attachment opening. The maximum overlapping dimension is at least half as large as a maximum transverse dimension of the spoke attachment openings. Each reinforcement member (6-7) includes a rim-facing surface that corresponds to a contour of the exterior surface of the spoke attachment portion 4.

Each of the spoke attachment openings of the spoke attachment portion 4 is threaded, and the through opening of each reinforcement member 7 is threaded. The

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tire attachment portion **D** includes a pair of annular tire support sections and an annular bridge section that extends therebetween to form a second substantially U-shaped cross-sectional shape to form the annular hollow area together with the spoke attachment portion 4. The annular side sections and inner annular section of the spoke attachment portion 4, and the annular tire support sections and annular bridge section of the tire attachment portion **D** are integrally formed together as a one-piece, unitary member that is separate from the reinforcement members (6-7).

The spoke attachment openings are formed in an inner annular section of the spoke attachment portion 4 that forms an inner radial periphery of the rim 3, such that the central axes of the spoke attachment openings extend in a substantially radial direction of the rim 3. Each reinforcement member (6-7) has a symmetrical shape relative to a center plane of the rim 3 and to a center radial plane that is perpendicular to the center plane of the rim 3. The overall circumferential dimension of the reinforcement members (6-7) is at least as large as the overall axial dimension thereof.

Each reinforcement member (6-7) has a base portion 6 with a first thickness, and a projecting portion 7 extending radially inwardly from the base portion 6, such that the projecting portion 7 has a second thickness that is at least twice the first thickness. The through opening of each reinforcement member (6-7) is formed in the projecting portion 7. The base portion 6 includes a tapered section (namely the outer surface of the last external thread) extending around its outer periphery.

The spoke attachment portion 4 of the rim 3 has a substantially uniform radial thickness in an annular area where the reinforcement members (6-7) are fixed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson. Nickerson contains all of the limitations as set forth in paragraph 3 above, but does not disclose that the attachment openings occurs after the reinforcement members are fixedly coupled to the spoke attachment portion of the rim. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the attachment openings after the reinforcement members are fixedly coupled to the spoke attachment portion of the rim in order to ensure that the through opening of the reinforcement members directly aligns with the attachment openings of the rim, thus reducing undue stresses on the spokes and reducing the difficulty of assembly.

6. Claims 1-9, 11-17, and 19-23, and 25-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al in view of Lacombe et al. Owen et al shows a bicycle rim **b** having an annular spoke attachment portion **g** including a plurality of circumferential spaced spoke attachment openings, each having a central axis. A plurality of separate reinforcement members **c** is fixedly coupled to the spoke

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attachment portion **g** at the spoke attachment openings to effectively increase the thickness of the spoke attachment portion **g**. The reinforcement members **c** include a through opening that is aligned with one of the spoke attachment openings.

Each reinforcement member **c** includes a projecting portion **k** extending inwardly from one of the spoke attachment openings in a radial direction to an end surface spaced radially inwardly of the exterior surface of the spoke attachment portion **g**. A rim-facing surface of the reinforcement member **c** overlies an attachment area of the exterior surface of the spoke attachment portion **g** that surrounds a corresponding one of the spoke attachment openings. The attachment areas of the exterior surface of the spoke attachment portion **g** are free of any through openings except for the spoke attachment openings.

Each of the through openings is substantially coincident with a respective spoke attachment opening when viewed from the central axis of the spoke attachment opening. Each reinforcement member **c** has a maximum overlapping dimension that overlaps the annular spoke attachment portion **g** as measured from an outer peripheral edge to a respective spoke attachment opening. The maximum overlapping dimension is at least half as large as a maximum transverse dimension of the spoke attachment openings. Each reinforcement member **c** includes a rim-facing surface that corresponds to a contour of the exterior surface of the spoke attachment portion **g**.

Each of the reinforcement members **c** is welded or brazed to the spoke attachment portion **g** (see lines 30-34). While Owen et al does not specify that each reinforcement member **c** is welded or brazed around its outer periphery, it would have

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been obvious to one of ordinary skill at the time of the invention to weld or braze the reinforcement members to the rim in any manner that would create a permanent bond between the rim and reinforcement members, dependent upon time and materials available.

The spoke attachment openings are formed in an inner annular section of the spoke attachment portion **g** that forms an inner radial periphery of the rim **b**, such that the central axes of the spoke attachment openings extend in a substantially radial direction of the rim **b**. Each reinforcement member **c** has a symmetrical shape relative to a center plane of the rim **b** and to a center radial plane that is perpendicular to the center plane of the rim **b**. The overall circumferential dimension of the reinforcement members **c** is at least as large as the overall axial dimension thereof.

Each reinforcement member **c** has a base portion with a first thickness, and a projecting portion **k** extending radially inwardly from the base portion, such that the projecting portion **k** has a second thickness that is at least twice the first thickness. The through opening of each reinforcement member **c** is formed in the projecting portion **k**.

The spoke attachment portion **g** of the rim **b** has a substantially uniform radial thickness in an annular area where the reinforcement members **c** are fixed. Each reinforcement member **c** is a separate element from the rim **b**.

Owen et al does not show a rim having a hollow space or the annular bridge section of the rim being free of openings except for a single valve aperture. Lacombe et al teaches the use of a bicycle rim 2 having an annular tire attachment portion 10

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adapted to mount a tire 5 thereon, and an annular spoke attachment portion 11 fixedly coupled to the tire attachment portion 10 to form an annular hollow area. The spoke attachment portion 11 includes a pair of annular side sections (14-15) extending radially outwardly from an inner annular section to form a first substantially U-shaped cross-sectional shape.

The tire attachment portion 10 includes a pair of annular tire support sections (24-25) and an annular bridge section 23 that extends therebetween to form a second substantially U-shaped cross-sectional shape and form the annular hollow area together with the spoke attachment portion 11. The annular bridge section 23 is devoid of any openings except for a single valve opening. The spoke attachment portion 11 includes a valve opening aligned with the single valve aperture in the bridge section 23.

The annular side sections (14-15) and inner annular section of the spoke attachment portion 11, and the annular tire support sections (24-25) and annular bridge section 23 of the tire attachment portion 10 are integrally formed together as a one-piece, unitary member. Each of the spoke attachment openings 18 of the spoke attachment portion 11 is threaded.

Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the rim of Owen et al with the configuration as taught by Lacombe et al for the purpose of mounting a pneumatic tire, thus improving the ride characteristics of the wheel, while providing reinforcement for the spokes at their connection with the rim.

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Owen et al as modified by Lacombe et al does not show the through opening of each reinforcement member being threaded. However, one of ordinary skill in the art at the time of the invention would have found it obvious to provide threads in the through hole of each reinforcement member for the purpose of increasing the amount of surface area for securing the spokes to the rim, thus reducing the likelihood of spoke separation during operation.

Response to Arguments

7. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are considered to show spoke wheels having reinforcement members at the spoke apertures of the rim. For example, Murray shows a wheel of the type described above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R Bellinger whose telephone number is 703-308-6298. The examiner can normally be reached on Mon - Thurs (9:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 703-308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason R Bellinger
Examiner
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